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Richard J. Duncan  
Joint Interoperability Test Command  
Ft. Huachuca, Arizona

Mr. Duncan,

The Dell PowerVault TL2000 and TL4000 are mid-range tape libraries designed to perform fast, easy, and reliable data storage backup and retrieval. The products use an embedded real-time operating system along with an embedded TCP/IP stack. The TL2000 is a 24-cartridge desktop or rack-mount library while the TL4000 is a 48-cartridge desktop or rack-mount library. Both products use the same processor, Ethernet controller, TCP/IP stack, and even the same firmware image. The main differences between the two products are related to their form-factor (the number of storage slots, maximum number of tape drives, etc.). As a result, we believe the certification testing will be applicable to both the Dell PowerVault TL2000 and TL4000 products.

IBM provides OEM customizations to the IBM TS3100 and TS3200 tape libraries for Dell, and after applying these customizations the libraries become the Dell TL2000 and TL4000 libraries. The Dell products use the same hardware base and firmware base as the IBM products with the only differences being those required for Dell customizations (look-and-feel) and specific Dell operational requirements. The processor, Ethernet controller, firmware base, operating system, and TCP/IP stack are identical in all four products. As a result, we believe the certification testing is applicable to both the IBM and the Dell versions of the products. The IBM TS3100 and TS3200 tape libraries completed testing at JITC on February 29, 2008.

Please consider this as the letter of conformance for the Dell PowerVault TL2000 and TL4000 products. The current firmware version for these products is version 6.60 and is available on our public web site. This version is the same as the IBM TS3100/TS3200 version 6.20 that JITC has already successfully tested, with the only differences being the customizations mentioned above plus some additional enhancements and bug fixes that are not related to the TCP/IP stack or operating system.

IBM manufacturing intentionally creates a different version number for the Dell products to help differentiate the two products on the manufacturing line. This reduces the chances of loading the wrong firmware on the products. If that were to happen, an IBM library would have a Dell personality or vice versa. As a result of this manufacturing rule, there would never be a Dell 6.20 version because there was already an IBM 6.20 version.

In addition, any other differences between IBM 6.20 and Dell 6.60 have since been incorporated in an IBM release. IBM is currently at version 6.50, with the only difference for Dell version 6.60 being the manufacturing rule described above and the unique Dell customizations.

A summary of the functional differences between IBM 6.20 and Dell 6.60 is listed below. Please note that no changes were made to the TCP/IP stack, the Ethernet driver, or the operating system.

- Added an encryption diagnostics function (tape drive encryption)
- Fixed several encryption problems (tape drive encryption)

- Fixed improper operator panel and web behavior for various operations
- Enhanced operator panel and web operations by adding/changing text, pop-ups, etc.
- Fixed a library error when new (unformatted) data cartridges are used
- Fixed a drive cleaning problem with LTO4 tape drives
- Fixed a problem with the Restore Factory Defaults function

This letter states that the Dell PowerVault TL2000 and TL4000 tape libraries comply with the DoD IPv6 Standard Profiles for IPv6 Capable Products. The PowerVault TL2000 and TL4000 have been designated as a "Network Server – Simple Server" running the following services:

- HTTP (HyperText Transfer Protocol)
- SNMP (Simple Network Management Protocol)

The PowerVault TL2000 and TL4000 supports the following required RFCs as indicated under "IPv6 Base" in Table 1 "IPv6 Capable Device to Test Case Matrix" (Network Server – Simple Server) of the IPv6 Generic Test Plan version 3.

- RFC 1981 Path Maximum Transmission Unit Discovery for IPv6
- RFC 2460 Internet Protocol v6 (IPv6) Specification
- RFC 2461 Neighbor Discovery for IPv6
- RFC 2462 IPv6 Stateless Address Auto-configuration
- RFC 4007 Scoped Address Architecture
- RFC 4193 Unique Local IPv6 Unicast Addresses
- RFC 4291 IPv6 Addressing Architecture
- RFC 4443 Internet Control Message Protocol (ICMPv6)
- RFC 2710 Multicast Listener Discovery (MLD) for IPv6
- RFC 2464 Transmission of IPv6 Packets over Ethernet Networks

The PowerVault TL2000 and TL4000 supports the following required RFCs as indicated under "Transition Mechanisms" in Table 1 "IPv6 Capable Device to Test Case Matrix" (Network Server – Simple Server) of the IPv6 Generic Test Plan version 3.

- RFC 4213 Transition Mechanisms for IPv6 Host and Routers (Dual IP Layer Operation)

Other RFCs from Table 1 are listed as "Optional" or "N/R" for Network Server – Simple Server. It is not Dell's intention to support those RFCs at this time.

Sincerely,



Michael Mitoma  
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